

CLAIMS

I claim:

- 1 1. A bale banding machine that bands bundles of material using a thermal and moisture
2 activated adhesive baleband, said bale banding machine comprising:
3 means for guiding the baleband around a bale;
4 means for tightening the baleband around the bale such that portions of the
5 baleband are overlapped; and
6 means for sealing the overlapped portion of the baleband, wherein said means for
7 sealing includes a steam applicator for applying steam to the overlapped portions of the
8 baleband.
- 1 2. The bale banding machine of claim 1, further comprising means for pressing together
2 the overlapped portions of the baleband to which the steam is applied.
- 1 3. The balebanding machine of claim 1, wherein said steam applicator comprises a steam
2 applicator nozzle for discharging a pressurized steam jet between the overlapped portions
3 of the baleband.
- 1 4. The balebanding machine of claim 3, wherein said sealing means includes an actuator
2 for providing timed control of steam discharge from the steam applicator nozzle.
- 1 5. The balebanding machine of claim 4, wherein said actuator includes circuit means for
2 actuating steam discharge from said steam applicator nozzle over specified time intervals.

1 6. The balebanding machine of claim 5, wherein said actuator includes a control circuit
2 for coordinating the steam discharge intervals with the tightening of the baleband around
3 the bale.

1 7. The balebanding machine of claim 1, wherein said means for guiding the baleband
2 around a bale and said means for tightening the baleband around the bale includes a
3 baleband feed motor.

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1 8. A method for banding bundles of material using a thermal and moisture activated
2 adhesive baleband, said method comprising:

3 guiding the baleband around a bale;

4 tightening the baleband around the bale such that portions of the baleband are
5 overlapped; and

6 sealing the overlapped portions of the baleband, wherein said sealing includes
7 applying steam to the overlapped portions of the baleband.

1 9. The method of claim 8, further comprising pressing together the overlapped portions
2 of the baleband to which the steam is applied.

1 10. The method of claim 8, wherein said applying steam to the overlapped portions of
2 the baleband comprises discharging a pressurized steam jet between the overlapped
3 portions of the baleband.

1 11. The method of claim 10, wherein said discharging a directed steam jet toward the
2 overlapped portions of the baleband includes providing timed control of steam discharge
3 from the steam applicator nozzle.

1 12. The method of claim 11, wherein said providing timed control of steam discharge
2 from the steam applicator nozzle includes actuating steam discharge from said steam
3 applicator nozzle over specified time intervals.

1 13. The method of claim 12, wherein said providing timed control of steam discharge
2 from the steam applicator nozzle includes coordinating the steam discharge intervals with
3 the tightening of the baleband around the bale.

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1 14. A bale banding machine that bands bundles of material using a thermal and moisture
2 activated adhesive baleband, said bale banding machine comprising:

3 means for guiding the baleband around a bale;

4 means for tightening the baleband around the bale such that portions of the
5 baleband are overlapped; and

6 means for sealing the overlapped portion of the baleband, wherein said means for
7 sealing includes an applicator for applying water to the overlapped portions of the
8 baleband, said water possessing sufficient thermal energy to effect adhesion of said
9 overlapped portions.

1 15. The bale banding machine of claim 14, further comprising means for pressing
2 together the overlapped portions of the baleband to which the water is applied.

1 16. The balebanding machine of claim 14, wherein said water applicator comprises a
2 water applicator nozzle for discharging a pressurized water jet between the overlapped
3 portions of the baleband.

1 17. The balebanding machine of claim 16, wherein said sealing means includes an
2 actuator for providing timed control of water discharge from the water applicator nozzle.

1 18. The balebanding machine of claim 17, wherein said actuator includes circuit means
2 for actuating water discharge from said water applicator nozzle over specified time
3 intervals.

1 19. The balebanding machine of claim 18, wherein said actuator includes a control
2 circuit for coordinating the water discharge intervals with the tightening of the baleband
3 around the bale.

1 20. The balebanding machine of claim 14, wherein said means for guiding the baleband
2 around a bale and said means for tightening the baleband around the bale includes a
3 baleband feed motor.

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1 21. A method for banding bundles of material using a thermal and moisture activated
2 adhesive baleband, said method comprising:

3 guiding the baleband around a bale;

4 tightening the baleband around the bale such that portions of the baleband are
5 overlapped; and

6 sealing the overlapped portions of the baleband, wherein said sealing includes
7 applying water to the overlapped portions of the baleband, said water possessing
8 sufficient thermal energy to effect adhesion of said overlapped portions.

1 22. The method of claim 21, further comprising pressing together the overlapped
2 portions of the baleband to which the water is applied.

1 23. The method of claim 21, wherein said applying water to the overlapped portions of
2 the baleband comprises discharging a pressurized water jet between the overlapped
3 portions of the baleband.

1 24. The method of claim 23, wherein said discharging a directed water jet toward the
2 overlapped portions of the baleband includes providing timed control of water discharge
3 from the water applicator nozzle.

1 25. The method of claim 24, wherein said providing timed control of water discharge
2 from the water applicator nozzle includes actuating water discharge from said water
3 applicator nozzle over specified time intervals.

1 26. The method of claim 25, wherein said providing timed control of water discharge
2 from the water applicator nozzle includes coordinating the water discharge intervals with
3 the tightening of the baleband around the bale.